



Representative Partner Case Studies

Milwaukee Public Schools, Wisconsin

Between 1983 and 1998, the Milwaukee Public Schools (MPS) implemented 760 energy-saving projects in the 200-building system. Without these projects, the school system's annual energy budget would be 25 percent higher. All the projects had paid for themselves by the end of 1998, and cumulative savings for the 15-year period were more than \$15 million.

On average, MPS buildings are 57 years old. The schools' boiler replacement projects, developed by the facilities staff and funded entirely by the school district, are a success because they leverage energy savings to pay for critical equipment replacements. Projects with a very short payback period, such as lighting upgrades, can offset other projects with a very long payback period, such as boiler replacements. When included in other projects, boilers have a payback of less than 6 years (instead of 60). In the past 5 years, Milwaukee Public Schools have replaced some 65 boilers.

Success is also the result of the school district's collaboration with different sponsors, including local utilities and the federal government. For example, dishwashing systems in school kitchens are big energy users. In 1996, Wisconsin Gas agreed to a 6-year lease deal so that schools could convert their dishwashers from electric booster heaters to more efficient gas booster heaters. At the end of the lease, the equipment and the directly connected piping systems will be handed over to MPS at no

additional cost. Cumulative savings from the 6-year deal are estimated at just under \$500,000.

The local electric utility, WEPCO, helped Milwaukee Public Schools modernize their lighting in two stages. In the late 1980s, all fluorescent fixtures were retrofitted with electronic ballasts and T12 34-watt lamps. In 1995, 158 schools installed the latest energy-efficient technology—T8 fluorescent lighting with reflectors.

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San Diego Unified School District, California

The San Diego Unified School District (SDUSD) received national recognition in the January 1998 issue of EPA's *Pollution Prevention Review* for its comprehensive energy-efficiency upgrades. On completion, the upgrades are expected to save the school district \$5.5 million in annual utility and maintenance costs, a reduction of 34 percent. Lighting retrofits alone save SDUSD more than \$3 million per year.

San Diego schools are notable for involving students in the upgrade process, for taking advantage of innovative finance opportunities, and for superb technical performance. Financing options include tradable Certificates of Participation

(COPs), which are debt instruments paid for by energy savings. SDUSD used COPs to raise \$43 million from investors, obtaining enough capital to fund all its projects. The district also took advantage of rebates worth more than \$3 million through San Diego Gas and Electric. The Energy Coordinator, J. William Naish, was named Energy Manager of the Year by *Energy User Magazine*.

The San Diego Unified School District has already reaped a reduction in electricity use of more than 26 million kWh annually. This reduction has prevented the emissions of 19,500 tons of carbon dioxide per year, equivalent to eliminating the pollution from 3,900 cars. The schools have actively promoted the message of energy efficiency to area print and broadcast media and in the classroom with window decals and giveaways for students.

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